Index

absolute age
  Bushveld Complex 3–6
  Channel Islands plutons 243–252
  orogeny in Antarctica 295–308
  Oslo Graben 29–36
  Scottish Caledonian 501–512
  Spontang ophiolite 513–520
adakite 547–560
Aegean Sea, Eocene collision tectonics 769–784
Albian palaeoecology of Antarctica 709–724
alluvial fans and Rio Grande rift architecture 885–893
Alpine Fault fabric studies 745–756
Alpine Orogeny, Turkey 769–784
Alps
  kinematic studies 439–443
  orogen kinematics 97–110
aminostratigraphy, Australian coast 111–124
anatexis, Himalayan 233–241
Anatolia, Cenozoic tectonics 367–378
Anglo–Brabant fold belt 341–352
Antarctica
  Cretaceous palaeoecology 709–724
  granitoid genesis 855–867
  Neoproterozoic–Cambrian orogeny 295–308
  Permo-Carboniferous marine microfaunas 219–232
  Pliocene palaeoclimate 925–935
apatite fission track analysis (AFTA) 59–73
Apennines
  Cretaceous carbonates 353–366
  tectonics 309–319
appinite 521–534
$^{40}Ar/^{39}Ar$ dating
  Atlantic Ocean opening 583–592
  Donets Basin sanidine, discussion 733–736
  Kilombero Rift 801–807
  Norwegian Sea white micas 793–799
  Sutherland thrust nappes 501–512
Arctic, compression tectonics, discussion 728–730
Arran, Isle of
  granite diapirism 869–876
  Permian sequence stratigraphy 785–791
ascent mechanisms
  Arran granite 869–876
  Dzhabyk batholith 881–884
Asia, Central, folding and inversion 83–95
Atlantic Ocean (North), deep marine erosion 427–438
Atlantic Ocean (NW), compression tectonics, discussion 728–730
Atlantic Ocean (South), opening 583–592
Australia
  Neoproterozoic canyons, discussion 573–576
  Palaeoproterozoic geochemistry 547–560
  Palaeoproterozoic geochronology 535–545
  Quaternary aminostratigraphy 111–124
autocorrelation, Etna seismotectonics and eruption 561–572
Avalonia, tectonic setting 913–924

Baltic Shield, crustal reservoirs 253–267
Baltica, Cambrian palaeomagnetism 321–329
basalt, volcanic glass 75–82
basins
  alluvial fan erosion 885–893
  in relation to rifting 193–196
Bayankhongor Ophiolite Zone 445–460
Belgium, Anglo-Brabant fold belt 341–352
biodegradation, volcanic glass 75–82
biodiversity and K–T boundary 737–740
biostratigraphy, Ordovician of Anglo-Welsh Borders 937–952
Bolonian, Wessex–Weald Basin stratigraphy 179–192
Borneo collision belt, discussion 396–400
breccia mineralization 37–46
British Caledonides 475–486
British Tertiary Igneous Province 47–58
Brodick Beds 785–791
burial and feldspar destruction 675–683
Bushveld Complex 3–6

$\delta^{13}C$
  Cretaceous Chalk 685–696
  and K–T carbon cycle 737–740
Cabo Ortegal chromitite 601–614
Cadomian Orogeny, Channel Islands 243–252
Caledonian Orogeny, granite petrogenesis 521–534
Caledonides
  Scottish thrust nappes 501–512
  terrane evolution of northern Britain 475–486
  thrust tectonics of North Greenland 487–499
Cambrian
  Chengjiang fossils 211–218
  deformation in Antarctica 295–308
  palaeogeography 321–329
canyons, Australia, discussion 573–576
Caradoc, seismicity and slumping in Belgium 341–352
carbonate platforms, Apennines 353–366
carbonates
  Chalk geochemistry 685–696
  speleothem geochemistry 831–841
Carboniferous
  Czech foreland basin 137–150
  glacioeustasy 579–582
  marine microfaunas 219–232
  sediment transport 29–36
  sedimentary provenance studies 741–744
Carpathians, orogen kinematics 97–110
Cenozoic
  tectonics of Anatolia 367–378
  volcanism of Sudan 285–294
Central Asian Orogenic Belt 445–460
Chalk geochemistry 685–696
Champagne Pool (New Zealand) 895–911
Channel Islands, Cadomian Orogeny 243–252
chemistry *see* geochemistry
chemostratigraphy 685–696
Chengjiang fossils 211–218
China, flood basalts 593–599
Chinji Formation 163–177
chromite deposits of Spain 601–614
chronostratigraphy, Ordovician 937–952
climate
  impact of Tertiary volcanism 269–284
  Late Palaeozoic 579–582
Clunes tonalite 821–830
compaction, sandstones and feldspar destruction 675–683
compression tectonics, Arctic, discussion 728–730
conifers, Cretaceous 709–724
Connemara, hornblende analyses 843–854
continental shelf, erosion and deposition 793–799
contourite, Atlantic Ocean 427–438
contraction in relation to rifting 193–196
cooling, Scottish Caledonian 501–512
Coorong Coastal Plain 111–124
core orientation 615–623
correlation, Upper Ordovician sequences 937–952
Cretaceous
  biotic crisis 737–740
  carbonates of Italy 353–366
  compression tectonics, discussion 728–730
  flood basalts 583–592
  palaeoecology of Antarctica 709–724

critical wedge model 125–135
cross-correlation, Etna seismotectonics and eruption 561–572
cross-section balancing 309–319
crust (lower), Baltic Shield intrusion reservoir 253–267
crustal shortening, Archaean of Zimbabwe 653–664
crustal thinning, Faeroe–Shetland Trough 409–412
Cumbria, Late Devensian glaciotectonics 125–135
cuticles as K–T boundary indicators 737–740
cyclic processes, Cretaceous carbonate 353–366
cyclicity, Carboniferous 579–582
Cyprus
  detachment faults 757–767
  volcanic glass 75–82
Czech Republic, Carboniferous foreland basin 137–150

δD analysis, Connemara hornblende 843–854
Dalradian, hornblende analyses 843–854
Dead Sea Rift 665–674
Dead Sea Transform 405–408
deep seismic sounding 409–412
deformation
  Caledonian 501–512
  Iberian Massif 953–968
  Neoproterozoic–Cambrian of Antarctica 295–308
deposition, Norwegian Sea micas 793–799
detachment faults, Cyprus 757–767
diagenesis, feldspar destruction 675–683
diapirs
  Arran granite 869–876
  Dzhabyk batholith 881–884
discussions
  $^{40}Ar/^{39}Ar$ dating of Donets Basin 733–736
  Borneo collision belt 396–400
  Cretaceous tectonics of Aretic 728–730
  landscape evolution in southern England 725–727
  lithosphere flexure and landscape 877–879
  Ludlow ocean episodes 731–732
  Menderes Massif evolution 393–395
  Neoproterozoic of Australia 573–576
  Wessex Basin 391–392
Donets Basin sanidine, discussion 733–736
dykes, seismic profile and ascent 881–884
Dzhabyk batholith 881–884

earthquakes, Syria and Lebanon 405–408
East Midlands, platform and shelf studies 59–73
Ecemis Fault Zone 367–378
eclogite 439–443
ecosystems and K–T boundary 737–740
ejecta, Palaeoproterozoic 331–340
electrical logging 615–623
Emeishan basalts 593–599
emplacement
  Archaean of Zimbabwe 653–664
  Bushveld Complex 3–6
  Clunes tolanite 821–830
  Lizard peridotite 809–820
  mechanisms of melts 881–884
England, south-central, discussion of landscape evolution 877–879
Eocene, tectonics of Turkey 769–784
epicontinental seas, Jurassic 179–192
epithermal deposits, New Zealand 895–911
erosion
  alluvial fans 885–893
  deep marine 427–438
  Norwegian Sea micas 793–799
eruptions, Mt Etna 561–572
Etna, seismotectonics 561–572
eustasy, Carboniferous 579–582
exhumation
  East Midlands 59–73
  Himalayas 625–635
  Turkey 769–784
extension
  Cenozoic of Sudan 285–294
  NW Alps 439–443
  and rifting 193–196
extrusion, tectonics of Anatolia 367–378

fabric, magmatic 653–664
Faeroe-Shetland Trough 409–412
faulting, Wessex basin, discussion 391–392
feldspar diagenesis 675–683
Finnmarkian Orogeny 321–329
flood basalts
  Cretaceous of Uruguay 583–592
  Permian of China 593–599
fluid inclusions 37–46
fluids in metamorphism 233–241
fluvial sediments, Pakistan 163–177
fold-thrust belt, Zagros Mts 969–981
folding
  Archaean of Zimbabwe 653–664
  Kazakstan 83–95
foreland basins 439–443
  Czech Republic 137–150
  Himalayas 625–635
Fort Augustus granite gneiss 7–14
fossil assemblages, Cambrian 211–218
  see also microfaunas
fractal analysis, Mt Etna seismicity 561–572

gabbro, lower ocean crust 611–623
geochemistry
  Chalk 685–696
  Manx Group 913–924
  Palaeoproterozoic of Australia 547–560
  speleothem studies 831–841
geochronology
  Australian granites 535–545
  exhumation and emplacement on Lizard 809–820
  see also Ar/Ar, K/Ar, Pb/Pb, Rb/Sr, U–Pb
Ghab Basin 665–674
glacial sedimentation, Svalbard 697–707
glaciation, Carboniferous 579–582
glacier dynamics, Svalbard 697–707
glaciotectonics, Late Devensian of Cumbria 125–135
glass *see* volcanic glass
gold deposits in siliceous sinter 895–911
Gondwana
  Antarctica granitoids 855–867
  break up 983–994
granites
  Antarctica 855–867
  Archaean of Zimbabwe 653–664
  Himalayas 233–241
  Palaeoproterozoic of Australia 535–545, 547–560
  Scottish Caledonian 521–534
  Sveconorwegian 253–267
graptolites, Ordovician 937–952
gravel lag, deep marine 427–438
gravity modelling, Faeroe–Shetland Trough 409–412
gravity surveys, Isle of Arran 869–876
Great Britain, Caledonian evolution 475–486
Great Glen Fault Zone 821–830
Greenland (East), Tertiary volcanism 269–284
Greenland (North), thrust tectonics 487–499
Greenland (South), impact spherules 331–340

Haast Schist 745–756
half grabens 487–499
Halls Creek Orogen 535–545, 547–560
heavy minerals 401–404
Himalayan Orogeny 461–474
Himalayas
  Indus River initiation 151–162
  metamorphism 233–241, 625–635, 637–652
  ophiolite ages 513–520
hornblende, Dalradian of Connemara 843–854

Iapetus Ocean
  Caledonian thrusting 487–499
  Manx Group deposition 913–924
Iberian Massif, metamorphism and deformation 953–968
Idaho, alluvial fans 885–893
impact spherules, Palaeoproterozoic 331–340
Indus Group and Indus River 151–162
intermontane basins, Himalayas 151–162
intrusion, Archaean of Zimbabwe 653–664
inversion tectonics, Apennines 309–319
Iran, fold–thrust belt 969–981
Ireland
  Connemara hornblende analyses 843–854
  mineralization 37–46
island arc, Iberian 601–614
isotope geochronology
  see Ar/Ar, K/Ar, Pb/Pb, Rb/Sr, U–Pb
isotopes
  Antarctica granitoids 855–867
  see also stable isotopes
Italy
  Apennine tectonics 309–319
  Cretaceous carbonates 353–366

Jersey, Cadomian Orogeny 243–252
Jurassic, Wessex–Weald Basin stratigraphy 179–192

K-feldspar, authigenic 801–807
K–T boundary 737–740
K/Ar dating, Connemara hornblende 843–854
Karatau Fault 83–95
Kazakstan, folding and inversion 83–95
Kildare Inlier 37–46
Kilombero Rift 801–807
Kimmeridgian, Wessex–Weald Basin stratigraphy 179–192
kinematics
  Alpine–Carpathian orogen 97–110
  NW Alps 439–443

Ladakh, Indus River initiation 151–162
Ladakh Himalaya 513–520
Lagerstätte 211–218
Lagonegro Basin tectonics 309–319
landform and landscape evolution, discussions 725–727, 877–879
Late Devensian, Cumbrian glaciotectonics 125–135
Lebanon, fault studies 405–408
lithosphere flexure, discussions 725–727, 877–879

magma chambers, Tertiary of Mull 47–58
magma mixing, Tertiary of Mull 47–58
magmatism
  Atlantic Ocean opening 583–592
  Caledonian 521–534
magnetic modelling, Faeroe–Shetland Trough 409–412
Main Central Thrust (Himalayas) 637–652
Malaysia, Tertiary rift basins 461–474
manganese, Cretaceous Chalk 685–696
mantle plumes
  Australia, discussion 573–576
  Permian in China 593–599
Manx Group provenance 913–924
mass balance, Svalbard glaciers 697–707
Mediterranean, palaeogeography 97–110
melts, seismic profile and ascent 881–884
Menderes Massif evolution, discussion 393–395
metamorphic core complexes, Cyprus 757–767
metamorphism
  Himalayas 233–241, 625–635, 637–652
  Iberian Massif, very low grade 953–968
  Turkey 769–784
mica (white), Norwegian Sea sediments 793–799
microfaunas, Permo-Carboniferous 219–232
Mid German Crystalline Rise, provenance studies 983–994
mineral-chemical stratigraphy 401–404
mineralization, Ireland 37–46
Miocene, fluvial sediments of Pakistan 163–177
Moine, Fort Augustus granite gneiss 7–14
molasse, Himalayan 151–162
monazite
  Carboniferous provenance studies 741–744
  role in dating Himalayan metamorphism 625–635
Mongolia, ophiolite lithology 445–460
Mull, minor intrusions 47–58
Murehwa granite (Zimbabwe) 653–664

Neoproterozoic
  Australian mantle plumes, discussion 573–576
  deformation in Antarctica 295–308
  thrust tectonics 487–499
neotectonics, Syria and Lebanon 405–408
New Zealand, epithermal deposits 895–911
New Zealand Orocline 745–756
Newfoundland, Caledonian evolution 475–486
North Sea, rifting 193–196
Norway, seismic volcanostratigraphy 413–426
Norwegian Sea, white mica study 793–799

$\delta^{18}O$, Connemara hornblende 843–854
Ocean Drilling Program 615–623
Oligocene, volcanism of Sudan 285–294
ophiolites
  Himalayas 513–520
  Mongolia 445–460
orbital forcing, Permian of Arran 785–791
Ordovician
  Anglo-Welsh biostratigraphy 937–952
  global geography 197–210
  Manx Group provenance 913–924
orogeny
  Neoproterozoic–Cambrian of Antarctica 295–308
  Pliocene of Zagros Mts 969–981
Oslo Graben 29–36

P–T conditions, Himalayan metamorphism 637–652
Pakistan, Miocene fluvial sediments 163–177
palaeoceanography, discussion 731–732
palaeoclimate
  Pliocene of Antarctica 925–935
  record in speleothems 831–841
palaeoecology, Cretaceous of Antarctica 709–724
Palaeogene, Wessex Basin 379–390
palaeogeography
  Cambrian of Baltica 321–329
  Alpine orogen of Mediterranean 97–110
  Palaeozoic global 197–210
palaeomagnetic record, Cambrian 321–329

Palaeoproterozoic
  granites of Australia 535–545
  impact spherules 331–340
palaeosols, Pliocene of Antarctica 925–935
palynology, K–T boundary indicators 737–740
Paraná–Etendeka flood basalt 583–592
Pb/Pb dating
  Sveconorwegian granites 253–267
  Torridonian 15–27
Pennines, sedimentary provenance studies 741–744
Permian
  flood basalts of China 593–599
  marine microfaunas 219–232
petrogenesis, Caledonian granite 521–534
phosphates, speleothem analysis 831–841
phylogeny, Cambrian 211–218
plate tectonics 445–460
platinum-group elements 601–614
Pliocene, Antarctic palaeoclimate 925–935
plumes *see* mantle plumes
plutonism, Jersey 243–252
polar regions, Cretaceous palaeoecology 709–724
porosity, secondary 675–683
potential field modelling 409–412
productivity and ecosystems around K–T boundary 737–740
Proterozoic, Torridonian provenance studies 15–27
provenance
  Carboniferous of Czech foreland basin 137–150
  Carboniferous of Pennines 741–744
  deep water sandstones of NW Europe 401–404
  Manx Group 913–924
  Mid German Crystalline Rise 983–994
  Norwegian Sea micas 793–799
  Oslo Graben sediments 29–36
  Scottish Torridonian 15–27
pull-apart basins, Syria 665–674
pyroclastics, Tertiary of Greenland 269–284

Quaternary
  Australian coast 111–124
  see also Late Devensian

racemization and aminostratigraphy 111–124
Rb/Sr dating
  Sutherland thrust nappes 501–512
  Sveconorwegian granites 253–267
reaction progress 953–968
reactivation, relation to rifting 193–196
Red Sea Hills, Oligocene volcanism 285–294
rift basins, Apennines 309–319
rift valleys, diagenetic studies 801–807
rift zones 461–474
rifting
  Permian in China 593–599
  relation to crustal shortening 193–196
  Tertiary of Greenland 269–284
Rio Grande rift 885–893
Rockall Trough, deep marine erosion 427–438
Rogart pluton 521–534
Rotliegend sequence stratigraphy 785–791

sandstone
  diagenesis 675–683
  mineral-chemical stratigraphy 401–404
sanidine dating, discussion 733–736
Scotland
  Caledonian thrust nappes 501–512
  granite petrogenesis 521–534
  Great Glen tectonics 821–830
  Highlands granite gneiss geochronology 7–14
  Torridonian provenance studies 15–27
sea-level change
  Cretaceous 353–366, 685–696
  Quaternary 111–124
sediment supply, Wessex Basin 379–390
sediment transport 427–438
sedimentation, Wessex Basin, discussion 391–392
seismic methods 665–674
seismic profiling
  glaciotectonics 125–135
  melt ascent 881–884
seismic section, Faeroe–Shetland Trough 409–412
seismic stratigraphy, Norway 413–426
seismotectonics, Mt Etna 561–572
sequence stratigraphy
  Cretaceous of Isle of Wight 685–696
  Jurassic of Wessex–Weald Basin 179–192
  Permian of Arran 785–791
Serghaya Fault 405–408
shallow-water environments 353–366
shelf, Wessex Basin sediments 379–390
SHRIMP data
  granites of Australia 535–545
  Lizard Peridotite 809–820
  Mid German Crystalline Rise 983–994
Silurian
  global geography 197–210
  Oslo Graben 29–36
  palaeoceanography, discussion 731–732
  see also Caradoc
silver deposits in siliceous sinter 895–911
sinter, biogenicity of 895–911
Sirius Group 925–935
Siwalik Group 163–177
Siwalik Range, metamorphism and exhumation 625–635
slump folds, Silurian of Belgium 341–352
Sm–Nd ratios
  Mid German Crystalline Rise 983–994
  Sveconorwegian granites 253–267
South China Block 593–599
Southern Permian Basin 785–791
Spain, chromitite deposits 601–614
speleothems, trace element analysis 831–841
spherules, Palaeoproterozoic impact 331–340
Spontang ophiolite 513–520
stable isotopes
  and biogenic alteration 75–82
  see also $\delta^{13}C$, δD and $\delta^{18}O$
stomatolites and epithermal deposits 895–911
strain, Variscan of Iberian Massif 953–968
strike-slip faults 461–474
  Cenozoic of Turkey 367–378
structural geology
  core orientation techniques 615–623
  Iberian Massif 953–968
subduction 461–474
  Gondwana break-up 855–867
  Palaeoproterozoic of Australia 547–560
Sudan, Oligocene volcanism 285–294
Suez, Gulf of 193–196
Sutherland
  deformation age 501–512
  granite petrogenesis 521–534
Svalbard, glacial sedimentation 697–707
syn-tectonic processes, Great Glen Fault Zone 821–830
Syria
  fault studies 405–408
  tectonic development 665–674

Tanzania, authigenic feldspar studies 801–807
tectonic history, East Midlands 59–73
tectonics
  Antarctica 219–232
  Dead Sea Rift 665–674
  Himalayas 233–241
  Iberia 601–614
  Norwegian Margin 413–426
tectonostratigraphy, Norwegian Margin 413–426
tephras, Tertiary of Greenland 269–284
terranes, Caledonian 475–486
Tertiary
  ecosystem recovery 737–740
  rift basins 461–474
  see also Eocene, Miocene, Oligocene, Palaeogene, Pliocene
Thailand, Tertiary rift basins 461–474
thermal history, East Midlands 59–73
thermal regime, Svalbard glaciers 697–707
thermochronology, discussion 396–400
thrust faults, Turkey 769–784
thrust tectonics, Caledonian 487–499
thrusting, Apennines 309–319
titanite age
  Bushveld Complex 3–6
  Scottish Highlands 7–14
trace elements, speleothem analysis 831–841
transform faults
  Cyprus 757–767
  New Zealand Orocline 745–756
transgression, Australian coast 111–124
transpression, Kazakstan 83–95
tree rings, Cretaceous 709–724
trilobites, Ordovician 937–952
Troodos ophiolite 757–767
  volcanic glass 75–82
true polar wander, Cambrian 321–329
turbidites
  Czech foreland basin 137–150
  Manx Group 913–924
  mineral-chemical stratigraphy 401–404
Turkey
  Eocene collision tectonics 769–784
  Menderes Massif, discussion 393–395
  tectonics of Anatolia 367–378

U–Pb dating
  Bushveld Complex 3–6
  Channel Islands plutonism 243–252
  Clunes tonalite 821–830
  Lizard Peridotite emplacement 809–820
  Pennine Basin infill 741–744
  Scottish Highlands granite gneiss 7–14
  Spontang ophiolite 513–520
U–Th–Pb dating
  Himalayas 625–635
  Mid German Crystalline Rise 983–994
ultramafic rocks, exhumation and emplacement on Lizard 809–820
unconformities, Zagros Mts 969–981
uplift
  Borneo, discussion 396–400
  southern England, discussion 725–727
Urals, batholith emplacement 881–884
Uruguay, flood basalts 583–592

Variscan Orogeny
  Iberian Massif 953–968
  Oslo Graben 29–36
Variscides, Czech Republic 137–150
vitrinite reflectance 59–73
volcanic glass, biogenic alteration 75–82
volcanism
  age in Jersey 243–252
  Tertiary
    Greenland 269–284
    Norwegian Margin 413–426
    Sudan 285–294

Wandel Sea, fold structures, discussion 728–730
Wessex Basin
  faulting and sedimentation, discussion 391–392
  Palaeogene shelf sediments 379–390
Wessex–Weald Basin stratigraphy 179–192

Zagros Mts, fold-thrust belt 969–981
Zimbabwe, Archaean granite 653–664
zinc mineralization 37–46
zircon age
  Cadomian of Jersey 243–252
  Lizard Peridotite 809–820
  Menderes Massif, discussion 393–395
  Oslo Graben 29–36
  Scottish Highlands 7–14
  Scottish Torridonian 15–27
zircons, provenance studies 983–994